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10/701,879	11/05/2003	Amar K. Mohanty	MSU 4.1-617	6700

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EXAMINER	
DANIELS, MATTHEW J	
ART UNIT	PAPER NUMBER
1791	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/701,879	MOHANTY ET AL.	
	Examiner	**Art Unit**	
	MATTHEW J. DANIELS	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 December 2008_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,2,5,7,9-15,17-22 and 30-35_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,7,9-13,15,17-22 and 30-35_ is/are rejected.

7)☒ Claim(s) _5 and 14_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 31-35** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 31 recites three steps of extruding (two steps of extruding being performed in the first extruder), and it is submitted that the specification does not support this limitation of the new claim. Other claims are rejected by dependence.

2. **Claims 31-35** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite two steps of extruding performed in the same (first) extruder, however, it is unclear how a metal salt solution can be added to the melted polymer after it has already been extruded. Other claims (for example, claim 1) appear to recite only one step of extrusion melt forming in the first extruder.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Rejections over Medoff in view of Polovina and Valenti

3. **Claims 1, 2, 4, 7, 9-13, 15, 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Medoff (USPN 6207729) in view of Valenti (Bulk Properties of Synthetic Polymer – Inorganic Salt Systems. Melting Behavior of Salted Poly(caproamide), The Journal of Physical Chemistry, Vol. 77, No. 3 (1973) pp. 389-395) and Polovina (USPN 3637571). **As to Claim 1**, Medoff teaches a process for producing a temperature sensitive natural filler-reinforced thermoplastic polymer composition as an article which comprises:

(c) extruding a mixture of a temperature sensitive natural filler, consisting essentially of cut fibers selected from (3:10-47) plant leaves, stalks, seeds, and pellets (4:57-60) at a melting temperature less than 200 C (5:56-57) without degrading the natural filler (implicit in that the mixer and extruder temperature remains “less than about 190° C”, 5:48-49 and 5:56-57).

Medoff is silent to the pre-blending, pre-drying, the metal salt and the particular amount, melt temperature suppression, pelletizing, and the method wherein without the metal salt the material would degrade the temperature sensitive filler.

However, these aspects of the invention would have been prima facie obvious for the following reasons:

Polovina teaches a process for producing a filler reinforced thermoplastic composition comprising pre-drying a thermoplastic polymer to remove moisture (5:10-40) and extrusion forming the polymer and metal salts (4:43) through a die in a first extruder (5:60-61), wherein the additives are present in an amount of 1 to 10% (2:70), and subsequently pelletizing the strand to form pellets (5:60-61). This technique is generally known as a masterbatch process.

Valenti teaches a method wherein a mixture of a thermoplastic nylon polymer and additive is provided wherein the melt temperature is suppressed below 200 C by a metal salt (page 394, left col., bottom) incorporated into a polymer material at about 1-10% by weight (page 394, left col., bottom). It is submitted that the claimed effect (drawn to what would occur without the metal salt) would be implicit when the salt and nylon of Valenti are used with the Medoff process.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Polovina and Valenti into that of Medoff for the following reasons:

(a) Medoff suggests polymeric binders (4:47-55) in pellet form (4:57-62), and Polovina teaches a thermoplastic raw material in pellet form, therefore Medoff suggests the polymer feed material which Polovina provides. Additionally, Polovina provides a known and conventional technique applicable to the Medoff process (known as providing a masterbatch) which would lead to the predictable result of supplying dry thermoplastic feed materials having the appropriate amount of additive already contained therein.

(b) Medoff suggests a raw material, such as nylon (4:52), having a mixing or extrusion temperature less than about 190 C (5:55-58). Valenti provides (page 394, left col., bottom) a

nylon having a melt temperature of about 190 C by incorporating a metal salt additive. Valenti teaches that the melting temperature of pure nylon 6 is about 240 C, but by incorporating a small amount of LiCl, the melting point is depressed on the order of 50 C, leading to an expected melt temperature of on the order of 190 C. Thus, Medoff suggests the material and melt temperature range provided by Valenti. Additionally, Valenti provides a known technique available to the ordinary artisan working with nylon thermoplastics since 1973 which is applicable to the Medoff process which would lead to the predictable result of suppressing the melt temperature and extrusion at a lower temperature.

As to Claims 2 and 4, Medoff teaches kenaf (3:12, among others) and nylon (4:52). **As to Claim 7**, Medoff molds the material into shape (5:50-60). **As to Claim 9**, Medoff teaches fiberglass (5:12), and it is submitted that the glass fiber would be added during the mixing process. Alternatively, rearrangement of the order of adding ingredients is generally considered to be prima facie obvious. One of ordinary skill would have found it obvious to add all reinforcing materials at the same time.

As to Claim 10, Medoff teaches a process for producing a temperature sensitive natural filler-reinforced thermoplastic polymer composition as an article which comprises:

(c) extruding a mixture of a temperature sensitive natural filler, consisting essentially of cut fibers selected from (3:10-47) plant leaves, stalks, seeds, and pellets (4:57-60) at a melting temperature less than 200 C (5:56-57) without degrading the natural filler (implicit in that the mixer and extruder temperature remains "less than about 190° C", 5:48-49 and 5:56-57).

(d) melt forming an article from the composition of step (c) (5:57-58)

Medoff is silent to the pre-blending, pre-drying, the metal particular metal salts and amount, melt temperature suppression, pelletizing, the method wherein the melt temperature is suppressed below 200 C by the metal salt, and the method wherein the extruding without the salt degrades the filler.

However, these aspects of the invention would have been prima facie obvious for the following reasons:

Polovina teaches a process for producing a filler reinforced thermoplastic composition comprising pre-drying a thermoplastic polymer to remove moisture (5:10-40) and extrusion forming the polymer and metal salts (4:43) through a die in a first extruder (5:60-61), wherein the additives are present in an amount of 1 to 10% (2:70), and subsequently pelletizing the strand to form pellets (5:60-61).

Valenti teaches a method wherein a mixture of a thermoplastic polymer and additive is provided wherein the melt temperature is suppressed below 200 C by a metal salt (page 394, left col., bottom) incorporated into a polymer material at about 1-10% by weight (page 394, left col., bottom). It is submitted that the claimed effect (drawn to what would occur without the metal salt) would be implicit when the salt and nylon of Valenti are used with the Medoff process.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Polovina and Valenti into that of Medoff for the following reasons:

(a) Medoff suggests polymeric binders (4:47-55) in pellet form (4:57-62), and Polovina teaches a thermoplastic raw material in pellet form, therefore Medoff suggests the polymer feed material which Polovina provides. Additionally, Polovina provides a known and conventional technique

applicable to the Medoff process (known as providing a masterbatch) which would lead to the predictable result of supplying dry thermoplastic feed materials having the appropriate amount of additive already contained therein.

(b) Medoff suggests a raw material, such as nylon (4:52), having a mixing or extrusion temperature less than about 190 C (5:55-58). Valenti provides (page 394, left col., bottom) a nylon having a melt temperature of about 190 C by incorporating a metal salt additive. Valenti teaches that the melting temperature of pure nylon 6 is about 240 C, but by incorporating a small amount of LiCl, the melting point is depressed on the order of 50 C, leading to an expected melt temperature of on the order of 190 C. Thus, Medoff suggests the material and melt temperature range provided by Valenti. Additionally, Valenti provides a known technique available to the ordinary artisan working with nylon thermoplastics since 1973 which is applicable to the Medoff process which would lead to the predictable result of suppressing the melt temperature and extrusion at a lower temperature.

As to Claim 11, Medoff teaches kenaf (3:12, among others). **As to Claim 12**, Medoff teaches maleic anhydride modified polyethylenes (4:63-67), which the Examiner interprets to be a maleated compatibilizer. **As to Claim 13**, Medoff teaches at least nylon (4:52). **As to Claim 15**, Medoff molds the material into shape (5:50-60). **As to Claim 17**, Medoff teaches fiberglass (5:12), and it is submitted that the glass fiber would be added during the mixing process. Alternatively, rearrangement of the order of adding ingredients is generally considered to be prima facie obvious.

As to Claim 18, Medoff teaches a process for producing a temperature sensitive natural filler-reinforced thermoplastic polymer composition as an article which comprises:

(c) extruding a mixture of a temperature sensitive natural filler, consisting essentially of cut fibers selected from (3:10-47) plant leaves, stalks, seeds, and pellets (4:57-60) at a melting temperature less than 200 C (5:56-57) without degrading the natural filler (implicit in that the mixer and extruder temperature remains "less than about 190° C", 5:48-49 and 5:56-57).

Medoff is silent to the pre-blending, pre-drying, the metal particular metal salts and amount, melt temperature suppression, pelletizing and the method wherein without the metal salt the material would degrade the temperature sensitive filler.

However, these aspects of the invention would have been prima facie obvious for the following reasons:

Polovina teaches a process for producing a filler reinforced thermoplastic composition comprising pre-drying a thermoplastic polymer to remove moisture (5:10-40) and extrusion forming the polymer and metal salts (4:43) through a die in a first extruder (5:60-61), wherein the additives are present in an amount of 1 to 10% (2:70), and subsequently pelletizing the strand to form pellets (5:60-61).

Valenti teaches a method wherein a mixture of a thermoplastic polymer and additive is provided wherein the melt temperature is suppressed below 200 C by a metal salt (page 394, left col., bottom) incorporated into a polymer material at about 1-10% by weight (page 394, left col., bottom). It is submitted that the claimed effect (drawn to what would occur without the metal salt) would be implicit when the salt and nylon of Valenti are used with the Medoff process.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Polovina and Valenti into that of Medoff for the following reasons:

(a) Medoff suggests polymeric binders (4:47-55) in pellet form (4:57-62), and Polovina teaches a thermoplastic raw material in pellet form, therefore Medoff suggests the polymer feed material which Polovina provides. Additionally, Polovina provides a known and conventional technique applicable to the Medoff process (known as providing a masterbatch) which would lead to the predictable result of supplying dry thermoplastic feed materials having the appropriate amount of additive already contained therein.

(b) Medoff suggests a raw material, such as nylon (4:52), having a mixing or extrusion temperature less than about 190 C (5:55-58). Valenti provides (page 394, left col., bottom) a nylon having a melt temperature of about 190 C by incorporating a metal salt additive. Valenti teaches that the melting temperature of pure nylon 6 is about 240 C, but by incorporating a small amount of LiCl, the melting point is depressed on the order of 50 C, leading to an expected melt temperature of on the order of 190 C. Thus, Medoff suggests the material and melt temperature range provided by Valenti. Additionally, Valenti provides a known technique available to the ordinary artisan working with nylon thermoplastics since 1973 which is applicable to the Medoff process which would lead to the predictable result of suppressing the melt temperature and extrusion at a lower temperature.

As to Claims 19 and 20, Medoff teaches kenaf (3:12, among others) and nylon (4:52). **As to Claim 21**, Valenti uses lithium chloride (page 394, left column) as the preferred melt temperature suppressant. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Medoff into that of Medoff for the same reasons as set forth above. **As to Claim 22**, Medoff teaches fiberglass (5:12). **As to Claim 30**, see Valenti, page 390, left column, line 3.

Rejections over Valenti in view of Medoff and Polovina

4. **Claims 1, 2, 4, 7, 9-13, 15, 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Valenti (Bulk Properties of Synthetic Polymer – Inorganic Salt Systems. Melting Behavior of Salted Poly(caproamide), The Journal of Physical Chemistry, Vol. 77, No. 3 (1973) pp. 389-395) in view of Medoff (USPN 6207729) and Polovina (USPN 3637571). **As to Claims 1, 10, and 18**, Valenti teaches a method wherein a mixture of a thermoplastic polymer and additive is provided wherein the melt temperature is suppressed below 200 C by a metal salt (page 394, left col., bottom) incorporated into a polymer material at 4 wt.% (page 394, left col., bottom). It is submitted that the claimed effect (drawn to what would occur without the metal salt) would be implicit in the Valenti polymer.

Valenti is silent to extrusion forming this mixture into pellets, pre-drying, mixing with a natural temperature sensitive filler comprised of stalk or other fibers, and extruding the second mixture. However, these aspects of the invention would have been prima facie obvious for the following reasons:

Polovina teaches a process for producing a filler reinforced thermoplastic composition comprising pre-drying a thermoplastic polymer to remove moisture (5:10-40) and extrusion forming the polymer and metal salts (4:43) through a die in a first extruder (5:60-61), wherein the additives are present in an amount of 1 to 10% (2:70), and subsequently pelletizing the strand to form pellets (5:60-61). This technique is generally known as a masterbatch process.

Medoff further teaches or suggests a process for producing a temperature sensitive natural filler-reinforced thermoplastic polymer composition which comprises extruding a

mixture of a temperature sensitive natural filler, consisting essentially of cut fibers selected from (3:10-47) plant leaves, stalks, seeds, and pellets (4:57-60) at a melting temperature less than 200 C (5:56-57) without degrading the natural filler (implicit in that the mixer and extruder temperature remains “less than about 190° C”, 5:48-49 and 5:56-57). Medoff suggests the method for use with nylon (4:52).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Polovina and Medoff into that of Valenti for the following reasons:

(a) Valenti provides a nylon raw material having a suppressed melt temperature of about 190 C (page 394, left col.), and Medoff teaches processes and reinforcements which are suggested for use with nylon and an extrusion temperature of about 190 C. Thus, Medoff suggests the process for materials similar to those of Valenti. Alternatively, one would have been motivated to incorporate the reinforcement and the extrusion shaping technique of Medoff into the Valenti process as known and conventional techniques of reinforcing and shaping thermoplastic polymers.

(b) Valenti teaches a batch process for forming an amount of modified nylon by casting in a tube. The process of Polovina accomplishes substantially the same objective in a continuous process by mixing additives and pelletizing the mixture. It would have been obvious to substitute the continuous process of Polovina for the batch process of Valenti in order to increase the throughput and uniformity of the material. Alternatively, Polovina teaches a known technique known as masterbatching which would have obviously been applicable to the mixing of additives

with a polymer disclosed by Valenti. As a conventional technique for mixing additives with a base material, one would have found it obvious to use the process with the materials of Valenti.

As to Claims 2 and 4, Medoff teaches kenaf (3:12, among others) and nylon (4:52). **As to Claim 7**, Medoff molds the material into shape (5:50-60). **As to Claim 9**, Medoff teaches fiberglass (5:12), and it is submitted that the glass fiber would be added during the mixing process. Alternatively, rearrangement of the order of adding ingredients is generally considered to be prima facie obvious. One of ordinary skill would have found it obvious to add all reinforcing materials at the same time. **As to Claims 11 and 20,** Medoff teaches kenaf (3:12, among others) as suitable reinforcing material for thermoplastics, which would have been obvious for the same reasons set forth above. **As to Claim 12**, Medoff teaches maleic anhydride modified polyethylenes (4:63-67), which the Examiner interprets to be a maleated compatibilizer. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate this aspect of Medoff into the process of Valenti in order to improve the bond between the matrix and the fiber materials. **As to Claims 13 and 19**, Valenti teaches nylon (page 389), but Medoff also teaches at least nylon (4:52). **As to Claim 15**, Medoff molds the material into shape (5:50-60). **As to Claims 17 and 22**, Medoff teaches fiberglass (5:12) as an additional reinforcement, and it is submitted that the glass fiber would be added during the mixing process. Alternatively, rearrangement of the order of adding ingredients is generally considered to be prima facie obvious. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the glass fiber of Medoff into the Valenti process in order to further improve the strength of the material.

As to Claim 21, Valenti uses lithium chloride (page 394, left column) as the preferred melt temperature suppressant.

Allowable Subject Matter

5. **Claims 5 and 14** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 29 December 2009 have been fully considered. Arguments pertaining to Claims 5 and 14 (See pages 12-14 of the Reply) are persuasive and the rejection of these claims is withdrawn. <u>Other arguments appear to be on the following grounds:</u>

(a) The rejection is based upon hindsight (Reply 11).

(b) None of the applied references addresses the problem of natural fiber degradation at temperatures below 200 C. Medoff teaches processing conditions that render the issue of fiber degradation moot in view of the extrusion temperatures less than 190 C. The action proposes a combination of references to solve a problem that was not recognized in the references.

(c) The only rationale linking Medoff and Valenti is the assertion that Valenti provides a nylon-salt mixture that can be used as a matrix material for the composite of Medoff. Even this is the impermissible use of hindsight reconstruction to pick and choose among isolated disclosures in the prior art and discounts the number and complexity of alternatives.

(d) Applicants submit that the pending claims are allowable on the basis of objective evidence of non-obviousness in the form of comparative data present in the application specification. Table 4 of the application shows examples performed using a nylon-6 polymer with variable amounts of lithium chloride and hemp natural fiber. Table 1 also presents comparative data from a fiber-reinforced nylon-6 which omits the metal salt to establish the higher melt temperature. Comparison with Sears N and Sears G taken from the Sears reference demonstrate a higher flexural strength. Comparing Sears G and Spec. 4 and Spec. 7, it can be seen that there is about a 20%-26% improvement in tensile modulus and about an 8%-21% improvement in flexural strength when the fiber reinforcement is added to a salt containing polymer instead of a polymer absent the salt. The improvement in the flexural modulus is even more pronounced, being almost 100%. "This significant improvement in certain mechanical properties can be attributed to the prevention of natural fiber degradation, as indicated in the application specification." (Reply at 16).

7. <u>These arguments are moot or not persuasive for the following reasons:</u>

(a) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(b,c) In suggesting extrusion temperatures of 190 C, it is submitted that Medoff implicitly provides conditions that would have avoided fiber degradation. Express recognition of what occurs outside the conditions suggested by Medoff is not believed to be required. Additionally, in suggesting that the mixing should be performed at less than 190 C, Medoff does so without regard to any particular resin. See column 3. One using the Medoff process with the nylon expressly suggested by Medoff would have found it obvious to use nylons capable of melting at 190 C or below, since any other nylon resin would have likely been contrary to the teaching or suggestion of the Medoff reference if it required mixing at temperatures above 190 C. Since nylons capable of melting at or around the temperature suggested by Medoff were known (from the Valenti reference), it is submitted that they are within the scope of those suggested by Medoff and would have been obvious.

(d) Applicant's argument appears to be that significant improvements are observed in comparing the Sears mechanical testing results with the instant mechanical testing results because the Sears reinforcement would have been degraded due to its higher process temperature. Applicants argue that "[t]his significant improvement in certain mechanical properties can be attributed to the prevention of natural fiber degradation, as indicated in the application specification." (Reply at 16).

It should be noted that this position may be contrary to that advanced in the 12 March 2007 Reply at pages 11-12 where it was argued that the alpha-cellulose of Sears is not a temperature sensitive natural cut fiber from a plant. Applicant appears to have previously argued that either (a) alpha-cellulose is not temperature sensitive, or (b) the fibers of Sears are not comparable to the instant fibers (natural cut fibers). If Applicant's previous argument was that

alpha-cellulose is not temperature sensitive, then it is submitted that the comparisons set forth in Table 1 of the 29 December 2008 reply are unexpected in that no cellulose degradation effects should have been expected regardless of the difference in process temperature. More explanation may be required to support Applicant's position with regard to the comparison set forth in the 29 December 2008 reply. If Applicant’s previous argument was instead that the alpha-cellulose of Sears is not comparable to the instant natural cut fibers, then it is submitted that the comparison set forth in the 29 December 2008 cannot be relied upon to establish the unexpected improvement in view of this admitted difference in the fibers.

It is noted that Table 4 of the instant application does not appear to provide any sample which contained hemp fibers but no metallic salt. If the properties of any such sample are found elsewhere in the specification, Applicant is invited to point this sample out to the Examiner. Such a sample would likely be the most probative evidence of Applicant's assertion of unexpected results.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/
Primary Examiner, Art Unit 1791
4/27/09